UNITED STATES PATENT AND TRADEMARK OFFICE

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
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| 10/618,313 | 07/10/2003 | Christopher J. Barbazette | 34741-926 | 4770 |

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O"Melveny & Myers LLP
IP&T Calendar Department LA-1118
400 South Hope Street
Los Angeles, CA 90071-2899

| EXAMINER |
|---|
| DUNN, DARRIN D |

| ART UNIT | PAPER NUMBER |
|---|---|
| 2121 | |

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**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

PTOL-90A (Rev. 04/07)

| | Application No. | Applicant(s) |
| **Office Action Summary** | 10/618,313 | BARBAZETTE ET AL. |
| | Examiner | Art Unit | |
| | Darrin Dunn | 2121 | |

*-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --*

**Period for Reply**

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE <u>3</u> MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.
- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
  Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**

1)☒ Responsive to communication(s) filed on *18 September 2007*.

2a)☐ This action is **FINAL**.      2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

**Disposition of Claims**

4)☒ Claim(s) *15-20* is/are pending in the application.

     4a) Of the above claim(s) *1-14* is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *15-20* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

**Application Papers**

9)☒ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

     Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

     Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

**Priority under 35 U.S.C. § 119**

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

     a)☐ All    b)☐ Some *    c)☐ None of:

       1.☐ Certified copies of the priority documents have been received.

       2.☐ Certified copies of the priority documents have been received in Application No. _____.

       3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

     * See the attached detailed Office action for a list of the certified copies not received.

**Attachment(s)**

1)☒ Notice of References Cited (PTO-892)

2)☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)

3)☐ Information Disclosure Statement(s) (PTO/SB/08)
     Paper No(s)/Mail Date _____.

4)☐ Interview Summary (PTO-413)
     Paper No(s)/Mail Date. _____ .

5)☐ Notice of Informal Patent Application

6)☐ Other: _____.

## DETAILED ACTION

1.      This Office Action is responsive to the communication filed on 09/18/2007.

2.      Claims 15 – 20 are presented for examination.

### *Claim Objections*

3.      Claim 19 is objected to because of the following informalities: [through a wireless]

presents a sentence fragment.  It is assumed that wireless medium provides for a remote

connection.  Appropriate correction is required.

### *Claim Rejections - 35 USC § 103*

4.      The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all

obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or
>
> described as set forth in section 102 of this title, if the differences between the subject
>
> matter sought to be patented and the prior art are such that the subject matter as a whole
>
> would have been obvious at the time the invention was made to a person having ordinary
>
> skill in the art to which said subject matter pertains.  Patentability shall not be negatived
>
> by the manner in which the invention was made.

5.      Claims 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Cordova et

al. (USPN 6952656) as applied to claims 15-20 above, and further in view of Englhardt (USPN

2004/0126207).

6.      As per claim 15, Cordova et al. teaches a data collection and diagnostic system,

comprising:

        a processing tool  having a plurality of front end components, each one of said plurality of

front end components electrically coupled with a component controller ([FIG 6-510], [COL 8

lines 1-15]) and generating messages and alarm signals relating to the operation of said front end

component ([FIG 7], [COL 10 lines 45-50] e.g., monitoring system adaptive to alarm messages),

        a tool controller electrically coupled to each one of said component controllers ([COL 8

lines 15-20], [FIG 6-614,615]);

        a data acquisition device electrically coupled to each one of said component controllers

separate from said tool controller, said data acquisition device adapted to receive

said messages and alarm signals generated by each one of said component

controllers ([COL 7 lines 1-14, 19-20], including:

     a processor ([COL 10 line 35-40]);

     a memory for storing said messages and alarm signals ([COL 10 lines 49-53]); and

     a network interface ([COL 12 lines 27-30]); and

     a remote computer electrically coupled to said tool controller and said network interface of

said data acquisition device ([COL 13 lines 44-49])

        Cordova et al. teaches a tool including controllers, and the controllers operate or control

various processes, including wafer handling ([COL 8 lines 10-14]). In addition, one or more

sensors are provided to sense and report processes.  However, Cordova et al. does not disclose

that such component controller includes a sensor for detecting a spacing between a front surface

of a port door enabling access into the processing tool and a front surface of a pod door as a pod

advances towards the port door. Englhardt teaches a sensor adapted to detect the aforementioned

limitations ([0019], [0040], [FIG 3])

Therefore, at the time the invention was made, one of ordinary skill in the art would have

motivation to modify Cordova et al. to sense various wafer handling conditions, including (but

not limited to), docking and undocking of wafer substrates. Cordova et al. teaches a plurality of

controllers to operate or control various processes, including wafer handling. Englhardt teaches

a wafer handling system where sensors are employed to ensure safe docking and undocking.

Therefore, an additional benefit is achieved during semiconductor fabrication by ensuring that

wafer handling is appropriately monitored using a sensor.

7.       As per claim 16, Englhardt, as modified, teaches the system according to claim 15,

wherein said plurality of front end components are selected from a group consisting of (i) a load

port assembly, (ii) a wafer handling robot [0029 lines 5-7],[0027] (iii) a pre-aligner ([0025 lines

1-5]) and (iv) an auto ID system.

8.       As per claim 17, Englhardt, as modified, teaches the system according to claim 15,

wherein said component controllers are selected from a group consisting of (i) a load port

assembly controller, (ii) an auto ID controller, (iii) a wafer handling robot controller ([0028 lines

5-7], [0027]) (iv) a pre-aligner controller, (v) a mini-environment controller, and (vi) an AMHS

controller.

9.       As per claim 18, Cordova et al, as modified, teaches the system according to claim 15,

wherein said remote computer is electrically coupled to said network interface through a local

area network ([FIG 10-1040, 1030], [COL 13 lines 45-49])

10.     As per claim 19, Cordova et al. teaches the system according to claim 15, wherein said

remote computer is electrically coupled to said network interface through a wireless ([COL 8

lines 60-61])

11.     As per claim 20, Cordova et al. teaches a data collection and diagnostic system,

comprising:

a processing tool  having a plurality of front end components, each one of said plurality of

front end components electrically coupled with a component controller ([FIG 6-510], [COL 8

lines 1-15]) and generating messages and alarm signals relating to the operation of said front end

component ([FIG 7], [COL 10 lines 45-50] e.g., monitoring system adaptive to alarm messages),

a tool controller electrically coupled to each one of said component controllers ([COL 8

lines 15-20], [FIG 6-614,615]);

a data acquisition device electrically coupled to each one of said component controllers

separate from said tool controller, said data acquisition device adapted to receive

said messages and alarm signals generated by each one of said component

controllers ([COL 7 lines 1-14, 19-20], including:

a processor ([COL 10 line 35-40]);

a memory for storing said messages and alarm signals ([COL 10 lines 49-53]); and

a network interface ([COL 12 lines 27-30]); and

a central computer electrically coupled to said tool controller, said data acquisition device

and said database ([FIG 10 – 1002])

Cordova et al. teaches a tool including controllers, and the controllers operate or control

various processes, including wafer handling ([COL 8 lines 10-14]). In addition, one or more

sensors are provided to sense and report processes. However, Cordova et al. does not disclose that such component controller includes a sensor for detecting a spacing between a front surface of a port door enabling access into the processing tool and a front surface of a pod door as a pod advances towards the port door. Englhardt teaches a sensor adapted to detect the aforementioned limitations ([0019], [0040], [FIG 3])

Therefore, at the time the invention was made, one of ordinary skill in the art would have motivation to modify Cordova et al. to sense various wafer handling conditions, including (but not limited to), docking and undocking of wafer substrates. Cordova et al. teaches a plurality of controllers to operate or control various processes, including wafer handling. Englhardt teaches a wafer handling system where sensors are employed to ensure safe docking and undocking. Therefore, an additional benefit is achieved during semiconductor fabrication by ensuring that wafer handling is appropriately monitored using a sensor.

### *Conclusion*

12.    The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

6831555 – method and apparatus for dynamically monitoring system components

6991945 – fault detection spanning multiple processes

7065422 – method and apparatus for system state classification

20040250108 – facility monitor

Any inquiry concerning this communication or earlier communications from the
examiner should be directed to Darrin Dunn whose telephone number is (571) 270-1645. The
examiner can normally be reached on EST:M-R(8:00-5:00) 9/5/4.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's
supervisor, David Vincent can be reached on (571) 272-3080. The fax phone number for the
organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent
Application Information Retrieval (PAIR) system. Status information for published applications
may be obtained from either Private PAIR or Public PAIR. Status information for unpublished
applications is available through Private PAIR only. For more information about the PAIR
system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR
system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would
like assistance from a USPTO Customer Service Representative or access to the automated
information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


DD                                              David Vincent
12/14/07                                        Supervisory Patent Examiner
                                                Art Unit 2121

*Ronald O Hartman Jr.*
*Primary Examiner , 2121*
*12/23/2007*